

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: January 7, 2002, 16:05:25 ; Search time 77.81 Seconds

(without alignments)
22.618 Million cell updates/sec

Title: US-08-569-749-9

Perfect score: 295
Sequence: 1 PEQLASAGFYVGRNDVNC.....CWESGDGPWEHAKWPRCE 48

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 100059 seqs, 3664827 residues

Total number of hits satisfying chosen parameters: 100059

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Database : SwissProt_39:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length DB	ID	Description
1	295	100.0	618	1	BIR3_HUMAN
2	290	98.3	611	1	BIR_CHICK
3	282	95.6	358	1	PIAP_PIG
4	282	95.6	604	1	BIR2_HUMAN
5	282	95.6	612	1	BIR3_MOUSE
6	268	90.8	600	1	BIR2_MOUSE
7	198	67.1	268	1	IAP3_NPYOP
8	187	63.4	1403	1	BIRF_MOUSE
9	186	63.1	1402	1	BIRG_MOUSE
10	186	63.1	1403	1	BIRA_MOUSE
11	185	63.1	1403	1	BIRE_MOUSE
12	183	62.0	1447	1	BIRB_MOUSE
13	182	61.7	275	1	IAP_GVCP
14	178	60.3	1403	1	BIR1_HUMAN
15	174	59.0	495	1	BIR4_MOUSE
16	174	59.0	495	1	BIR4_MOUSE
17	174	59.0	497	1	BIR4_MOUSE
18	160	54.2	438	1	BIR4_HUMAN
19	156	52.9	498	1	IAP2_DROME
20	118	40.0	286	1	IAP1_NPYAC
21	117.5	39.8	4828	1	BIR0_HUMAN
22	110	37.6	273	1	IAP1_NPYOP
23	110	37.6	273	1	IAP1_NPYOP
24	104	35.3	939	1	ZEP_TIRV6
25	90.5	30.7	140	1	BIR5_MOUSE
26	90.5	30.7	142	1	BIR5_MOUSE
27	87.5	29.7	142	1	BIR5_MOUSE
28	87.5	29.7	142	1	BIR5_MOUSE
29	65.5	22.2	224	1	IAP1_ASFB7
30	65.5	22.2	224	1	IAP1_ASFB7
31	61.5	20.8	224	1	IAP1_ASFB7
32	61.5	20.8	224	1	IAP1_ASFB7
33	58.5	19.8	2173	1	TSP1_XENLA

34	58	19.7	556	1	NUMB_DROME
35	57.5	19.5	156	1	BDP_HUMAN
36	57.5	19.5	555	1	HYDL_STRHA
37	57.5	19.3	1004	1	POIL_SCTCO
38	56	19.0	65	1	MTR_STRPU
39	55.5	18.6	1536	1	SIN3_YEAST
40	55	18.6	92	1	PMG_AYATH
41	55	18.6	954	1	BIR1_YEAST
42	54.5	18.5	249	1	IAP2_NPYAC
43	54.5	18.5	347	1	CAP1_EPHMO
44	54.5	18.5	1170	1	TSP1_BOVIN
45	54.5	18.5	1170	1	TSP1_HUMAN

ALIGNMENTS

RESULT ID	1	STANDARD	PRT	618 AA.
BIR3_HUMAN				
AC	Q13450: Q16516:			
DT	01-NOV-1997 (Rel. 35, Created)			
DT	01-NOV-1997 (Rel. 35, Last sequence update)			
DT	20-AUG-2001 (Rel. 40, Last annotation update)			
DE	BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 3 (INHIBITOR OF APOPTOSIS PROTEIN 2) (HIAP2) (HIAP-2) (C-IAP1) (TNFR2-TNFR SIGNALING COMPLEX PROTEIN 2) (IAP HOMOLOG B).			
DE	PROTEIN 2) (IAP HOMOLOG B).			
GN	BIR3 OR AIP2 OR IAP2 OR MINB.			
OS	Homo sapiens (Human).			
OC	Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;			
OC	Mammalia; Eutheria; Primates; Catarrhini; Homnidae; Homo.			
OX	NCBI_TaxID=96065;			
NP	[1]			
NP	SEQUENCE FROM N.A.			
RX	MDLINF-96128127: PubMed-8548910:			
RA	Roche M., Fan M.-G., Henzel W.J., Ayres T.M., Goeddel D.V.:			
RT	"The TNFR2-TNFR signaling complex contains two novel proteins related to baculoviral inhibitor of apoptosis proteins."			
RL	Cell 83:1243-1252(1995).			
NP	[2]			
NP	SEQUENCE FROM N.A.			
RX	MDLINF-9614949: PubMed-8552191:			
RA	Liston P., Roy N., Tanai K., Lefebvre C., Baird S., Chertov-Horvat G., Farhant R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.:			
RT	"Suppression of apoptosis in mammalian cells by NAIP and a related family of IAP genes."			
RL	Nature 379:349-353(1996).			
NP	[3]			
NP	SEQUENCE FROM N.A.			
RX	MDLINF-96209843: PubMed-8643514:			
RA	Uren A.G., Pakusch M., Hawkins C.J., Puls K.L., Vaux D.L.:			
RT	"Cloning and expression of apoptosis inhibitor protein homologs that function to inhibit apoptosis and/or bind tumor necrosis factor receptor-associated factors."			
RL	Proc. Natl. Acad. Sci. U.S.A. 93:4974-4978(1996).			
NP	[4]			
NP	STRUCTURE BY NMR OF 266-363			
RX	MDLINF-99332054: PubMed-10404221:			
RA	Hinds M.G., Norton R.S., Vaux D.L., Day C.L.:			
RT	"Isolation structure of a baculoviral inhibitor of apoptosis (IAP) repeat."			
RL	Nat. Struct. Biol. 6:648-651(1999).			
CC	-1- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO FORM AN HETEROMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR NECROSIS FACTOR RECEPTOR 2 (TNFR2).			
CC	-1- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).			
CC	-1- TISSUE SPECIFICITY: PRESENT IN MANY FETAL AND ADULT TISSUES, MAINLY EXPRESSED IN ADULT SKELETAL MUSCLE, THYMUS, TESTIS, OVARY, AND PANCREAS. LOW OR ABSENT IN BRAIN AND PERIPHERAL BLOOD LEUCOCYTES.			

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CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC -----
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CC or send an email to license@isb-sib.ch).
CC -----
DR EMBL: L49431; AAC1942.1; -
DR EMBL: U45879; AAC50372.1; -
DR EMBL: U37547; AAC50508.1; -
DR PDB: 1OHH; 20-OCT-99.
DR MM: 601721; -
DR InterPro: IPR001370; BIR.
DR InterPro: IPR001315; CARD.
DR InterPro: IPR001841; ZnF_fing.
DR Pfam: PF00653; BIR; 3.
DR Pfam: PF00619; CARD; 1.
DR SMART: SM00238; BIR; 3.
DR SMART: SM00114; CARD; 1.
DR SMART: SM00184; RING; 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 3.
DR PROSITE: PS0143; BIR_REPEAT_2; 3.
DR PROSITE: PS0209; CARD; 1.
DR Apoptosis: Zinc-finger; Repeat: 3D-structure.
DR REPEAT: 46 113 BIR 1.
DR REPEAT: 184 250 BIR 2.
DR REPEAT: 269 336 BIR 3.
DR DOMAIN: 453 539 CARD.
DR 2N_FING: 571 605 RING-TYPE.
DR CONFLICT: 157 157 S -> P (IN REF. 2).
DR CONFLICT: 308 308 C -> G (IN REF. 2).
DR CONFLICT: 414 414 Q -> L (IN REF. 2).
DR CONFLICT: 514 514 L -> W (IN REF. 2).
DR SEQUENCE: 618 AA; 69899 MW; C1778D328065586D CRC64;

Query Match
Best Local Similarity 100.0%; Score 295; DB 1; Length 618;
Matches 48; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 PEOLASAGFYVGRNDYKCFCCDGLRCWESGDDPWVHAKMPFCE 48
DB 287 PEOLASAGFYVGRNDYKCFCCDGLRCWESGDDPWVHAKMPFCE 334

RESULT 2
BIR_CHICK
ID BIR_CHICK STANDARD; PRT; 611 AA.
AC 090660;
DT 01-NOV-1997 (rel. 35, Created)
DT 01-NOV-1997 (rel. 35, Last sequence update)
DT 20-AUG-2001 (rel. 40, Last annotation update)
DE INHIBITOR OF APOPTOSIS PROTEIN (IAP) (INHIBITOR OF T CELL APOPTOSIS
DE PROTEIN).
GN ITA.
OS Gallus gallus (Chicken).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasianinae;
OC Gallus.
OX NCBI_Taxid=9031;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=脾脏;
RX MEDLINE=97101112; PubMed=8945639;
RA Digby M.R., Kimpson W.G., York J.J., Connick T.E., Lowenthal J.W.;
RA ITA, a vertebrate homologue of IAP that is expressed in T
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RT lymphocytes."
RL DNA Cell Biol. 15:981-988(1996).
CC -1- FUNCTION: APOPTOTIC SUPPRESSOR (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: PREDOMINANTLY NUCLEAR.
CC -1- TISSUE SPECIFICITY: CELLS OF THE T LYMPHOCYTE LINEAGE. FOUND IN
CC BOTH CORTICAL AND MEDULLARY CELLS OF THE THYMUS.
CC -1- DEVELOPMENTAL STAGE: HIGH LEVELS ARE INDUCED WITHIN 4-6 HOURS OF
CC T-CELL ACTIVATION IN SPLEEN AND THYMUS.
CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC -----
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CC -----
DR EMBL: U37466; AAB48118.1; -
DR InterPro: IPR001370; BIR.
DR InterPro: IPR001315; CARD.
DR InterPro: IPR001841; ZnF_fing.
DR Pfam: PF00653; BIR; 3.
DR Pfam: PF00619; CARD; 1.
DR Pfam: PF00097; zf-C3HC4; 1.
DR SMART: SM00238; BIR; 3.
DR SMART: SM00114; CARD; 1.
DR SMART: SM00184; RING; 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 3.
DR PROSITE: PS0143; BIR_REPEAT_2; 3.
DR PROSITE: PS0209; CARD; 1.
DR Apoptosis: Zinc-finger; Repeat: Nuclear protein.
DR REPEAT: 30 97 BIR 1.
DR REPEAT: 176 242 BIR 2.
DR REPEAT: 262 329 BIR 3.
DR 2N_FING: 564 598 RING-TYPE.
DR SEQUENCE: 611 AA; 69009 MW; 53FC9136F34BEDD CRC64;

Query Match
Best Local Similarity 98.3%; Score 290; DB 1; Length 611;
Matches 46; Conservative 1; Mismatches 1; Indels 0; Gaps 0;

OY 1 PEOLASAGFYVGRNDYKCFCCDGLRCWESGDDPWVHAKMPFCE 48
DB 280 PEOLASAGFYVGRNDYKCFCCDGLRCWESGDDPWVHAKMPFCE 327

RESULT 3
PIAP_PIG
ID PIAP_PIG STANDARD; PRT; 358 AA.
AC 062640;
DT 15-DEC-1998 (rel. 37, Created)
DT 15-DEC-1998 (rel. 37, Last sequence update)
DT 20-AUG-2001 (rel. 40, Last annotation update)
DE PUTATIVE INHIBITOR OF APOPTOSIS.
GN PIAP.
OS Sus scrofa (Pig).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Cetartiodactyla; Suina; Suidae; Sus.
OX NCBI_Taxid=9923;
RN [1]
RP SEQUENCE FROM N.A.
RC TISSUE=脾脏;
RX MEDLINE=98162622; PubMed=9501011;
RA Stehlik C., de Martin R., Binder B.R., Lipp J.;
RA "Cytokine induced expression of porcine inhibitor of apoptosis
RA protein (Iap) family member is regulated by NF-kappa B.";
RA Biochem. Biophys. Res. Commun. 243:827-832(1998).
CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
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CC -1- SIMILARITY: CONTAINS 2 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.

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DR EMBL: U79143; AAC39171.1; -
DR InterPro: IPR001370; BIR.
DR InterPro: IPR001315; CARD.
DR InterPro: IPR001841; Znf_fing.
DR Pfam: PF00653; BIR; 2.
DR Pfam: PF00653; CARD; 1.
DR Pfam: PF00653; ZF-C3HC4; 1.
DR SMART: SM00238; BIR; 2.
DR SMART: SM00184; CARD; 1.
DR SMART: SM00184; RING; 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 2.
DR PROSITE: PS0143; BIR_REPEAT_2; 2.
DR PROSITE: PS50209; CARD; 1.
DR KEGG: Apoptosis; Zinc-finger; Repeat.
FT REPEAT 4 70 BIR 1.
FT REPEAT 90 157 BIR 2.
FT ZN_FING 311 345 RING-TYPE
SQ SEQUENCE 358 AA; 40977 MW; E92268FA9A6190A4 CRC64;

Query Match 95.6%; Score 282; DB 1; Length 358;
Best Local Similarity 93.8%; Pred. No. 1,1e-27;
Matches 45; Conservative 2; Mismatches 1; Indels 0; Gaps 0;
OY 1 PEOLASGEFYVGRNDVRCFCDCDGLRCWESGDDPWYEHAKWPFRC 48
Db 108 PEOLASGEFYVGRNDVRCFCDCDGLRCWESGDDPWYEHAKWPFRC 155
|||||
ID BIR2_HUMAN STANDARD; PRT; 604 AA.
AC Q13489; Q16628; Q9UP46;
DT 01-NOV-1997 (Ref. 35, Last sequence update)
DT 01-NOV-1997 (Ref. 35, Last annotation update)
DT 20-MAY-2002 (Ref. 40, Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1 (INHIBITOR OF APOPTOSIS
DE PROTEIN 1) (H1AP1) (H1AP-1) (C-IAP2) (TNFR2-TRAF SIGNALING COMPLEX
DE PROTEIN 1) (IAP HOMOLOG C).
GN BIRC2 OR API1 OR IAP1 OR MING.
OS Homo sapiens (Human).
OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Primates; Catarrhini; Hominoidea; Homo.
OX NCBI_TaxID:9606;
RN [1]
RP SEQUENCE FROM N.A.
RX MEDLINE:96128127; PubMed-854810;
RX Rothe M., Pan M.-G., Henzel W.J., Ayres T.M., Goeddel D.V.;
RT "The TNFR2-TRAF signaling complex contains two novel proteins related
RT to baculoviral inhibitor of apoptosis proteins.",
RL Cell 83:1243-1252(1995).
RN [2]
RP SEQUENCE FROM N.A.
RX TISSUE=Liver;
RX MEDLINE:96149249; PubMed-8552191;
RX Liston P., Roy N., Tamai K., Lefebvre C., Baird S., Chertion-Horvat G.,
RX Farhan R., McLean M., Ikeda J., Mackenzie A., Korneluk R.G.;
RT "Suppression of apoptosis in mammalian cells by NAIP and a related
RT family of IAP genes.",
RL Nature 379:349-353(1996).
RN [3]

RP SEQUENCE FROM N.A.
RC TISSUE=Rectal Liver;
RX MEDLINE:96209843; PubMed-8643514;
RX Uren A.G., Pakusch M., Hawkins C.J., Puls K.L., Vaux D.L.;
RT "Cloning and expression of apoptosis inhibitory protein homologs that
RT function to inhibit apoptosis and/or bind tumor necrosis factor
RT receptor-associated factors.",
RL Proc. Natl. Acad. Sci. U.S.A. 93:4974-4978(1996).
RN [4]
RP SEQUENCE FROM N.A.
RX MEDLINE:99252096; PubMed-10233894;
RX Horrevoets A.J., Fontijn R.D., van Zonneveld A.J., de Vries C.J.,
RX ten Cate J.M., Pannekoek H.;
RT "Vascular endothelial genes that are responsive to tumor necrosis
RT factor-alpha in vitro are expressed in atherosclerotic lesions,
RT including inhibitor of apoptosis protein-1, stannin, and two novel
RT genes.",
RL Blood 93:3418-3431(1999).
CC -1- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIF REGION INTERACTS
CC WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC FORM AN HETEROERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC NECROSIS FACTOR RECEPTOR 2 (TNFR2).
CC -1- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC -1- TISSUE SPECIFICITY: HIGHLY EXPRESSED IN FETAL LUNG, AND KIDNEY. IN
CC THE ADULT, EXPRESSION IS MAINLY SEEN IN LYMPHOID TISSUES,
CC INCLUDING SPLEEN, THYMUS AND PERIPHERAL BLOOD LYMPHOCYTES.
CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.

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DR EMBL: L49432; AAC41943.1; -
DR EMBL: Q45878; AAC50371.1; -
DR EMBL: U37546; AAC50507.1; -
DR EMBL: AF070674; AAC83232.1; -
DR MIM: 601712; -
DR InterPro: IPR001370; BIR.
DR InterPro: IPR001315; CARD.
DR InterPro: IPR001841; Znf_fing.
DR Pfam: PF00653; BIR; 3.
DR Pfam: PF00653; CARD; 1.
DR Pfam: PF00653; ZF-C3HC4; 1.
DR SMART: SM00238; BIR; 3.
DR SMART: SM00184; CARD; 1.
DR SMART: SM00184; RING; 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 3.
DR PROSITE: PS0143; BIR_REPEAT_2; 3.
DR PROSITE: PS50209; CARD; 1.
KW Apoptosis; Zinc-finger; Repeat.
FT REPEAT 29 96 BIR 1.
FT REPEAT 169 235 BIR 2.
FT REPEAT 255 322 BIR 3.
FT DOMAIN 447 525 CARD.
FT ZN_FING 557 591 RING-TYPE.
FT CONFLICT 18 18 N -> Y (IN REF. 4).
FT CONFLICT 119 119 D -> H (IN REF. 2).
FT CONFLICT 153 153 H -> P (IN REF. 2).
FT CONFLICT 163 163 H -> P (IN REF. 2).
FT CONFLICT 165 165 A -> R (IN REF. 2).
FT CONFLICT 191 191 F -> L (IN REF. 2).
FT CONFLICT 364 364 F -> L (IN REF. 2).
FT CONFLICT 552 552 Q -> P (IN REF. 2).
SQ SEQUENCE 604 AA; 68371 MW; 8581A0BA9A4A4A7 CRC64;

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Oy      1  PGLASAGFYVGRNDVKFCDCGSLKRCWSSGDDPVAHAKAPFCE 48
Db      273 PGLASAGFYVGRNDVKFCDCGSLKRCWSSGDDPVAHAKAPFCE 320

RESULT 5
BIR3_MOUSE STANDARD: PRT: 612 AA.
AC Q02210; 008864;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 20-AUG-2001 (Rel. 40, Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 3 (INHIBITOR OF APOPTOSIS
DE PROTEIN 2) (MIAP2) (MIAP-2).
DE BIRC3 OR API2 OR IAP2.
OS Mus musculus (Mouse).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murine; Mus.
OX NCBI_TaxId=10090;
RN [1]
RP SEQUENCE FROM N.A. AND PARTIAL SEQUENCE.
RX MEDLINE=96128127; PubMed=8548810;
RA Rodhe M., Pan M.-G., Henzel W.J., Ayres T.M., Goeddel D.V.;
RT "The TNFR2-TNFAF signaling complex contains two novel proteins related
RT to baculoviral inhibitor of apoptosis proteins."
RL Cell 83:1243-1252(1995).
RN [2]
RP SEQUENCE FROM N.A.
RX TISSUE=skeletal muscle;
RA MEDLINE=98110590; PubMed=9441758;
RA Liston P., Lefebvre C., Fong W.G., Xuan J.Y., Korneluk R.G.;
RT "Genomic characterization of the mouse inhibitor of apoptosis protein
RT 1 and 2 genes."
RL Genomics 46:495-503(1997).
CC -1- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS
CC WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC FORM AN HETEROMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC MECHOSIS FACTOR RECEPTOR 2 (TRMF2).
CC -1- SUBCELLULAR LOCATION: CYTOSOLSMIC (POTENTIAL).
CC -1- TISSUE SPECIFICITY: EXPRESSED IN HEART, BRAIN, SPLEEN, LUNG,
CC LIVER, SKELETAL MUSCLE, KIDNEY, AND TESTIS.
CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC -----
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CC -----
DR EMBL: LA9433; AAC42078.1; -
DR EMBL: U88909; AAC53532.1; -
DR MGd: MG1:1197009; BIRc3.
DR InterPro: IPR001370; BIR.
DR InterPro: IPR001315; CARD.
DR pfam: pf00653; BIR: 1.
DR pfam: pf00653; CARD: 1.
DR pfam: pf00093; ZF-CINC4; 1.
DR SMART: SM00238; BIR: 3.
DR SMART: SM00114; CARD: 1.
DR SMART: SM00184; RING: 1.
DR PROSITE: PS01282; BIR_REPEAT_1; 3.
DR PROSITE: PS50143; BIR_REPEAT_2; 3.
DR PROSITE: PS50209; CARD: 1.

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KW Apoptosis: Zinc-finger; Repeat. 46 113 BIR 1.
FT REPEAT 177 243 BIR 2.
FT REPEAT 262 329 BIR 3.
FT DOMAIN 447 533 CARD.
FT ZNF_RING 565 599 CARD.
FT CONFLICT 380 380 RING-TYPE.
SQ SEQUENCE 612 AA; 65676 MW; E08960D93C6C610D CRC64;

Query Match 95.68; Score 282; DB 1; Length 612;
Best Local Similarity 93.88; Pred. No. 1,8e-27;
Matches 45; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

QY 1 PEQLASAGFYVYGRNDVYKFCDCDGLKCMWSGDDPVVHEHAKMFRCE 48
Db 280 PEQLASAGFYVYGRNDVYKFCDCDGLKCMWSGDDPVVHEHAKMFRCE 327
|||||
BIR2_MOUSE 6
BIR2_MOUSE STANDARD; PRT: 600 AA.
ID BIR2_MOUSE
AC O08663;
DT 01-NOV-1997 (Rel. 35, Created)
DT 01-NOV-1997 (Rel. 35, Last sequence update)
DT 20-AUG-2001 (Rel. 40, Last annotation update)
DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 2 (INHIBITOR OF APOPTOSIS
DE PROTEIN 1) (HIAPI) (MIAP-1).
DE BIRC2 OR API OR IAP1.
GN Mus musculus (Mouse).
OS Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Euteleostomi;
OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
OX NCBI_TaxId:10090;
RN 1
RP SEQUENCE FROM N.A.
RC TISSUE=skeletal muscle;
RX MEDLINE=98110590; PubMed=9441158;
RA Liston P., Lefevre C., Fong W.G., Xuan J.Y., Korneluk R.G.;
RT Genomic characterization of the mouse inhibitor of apoptosis protein
RT 1 and 2 genes.
RL Genomics 46:495-503(1997).
CC -1- FUNCTION: APOPTOTIC SUPPRESSOR. THE BIR MOTIFS REGION INTERACTS
CC WITH TNF RECEPTOR ASSOCIATED FACTORS 1 AND 2 (TRAF1 AND TRAF2) TO
CC FORM AN HETEROOMERIC COMPLEX, WHICH IS THEN RECRUITED TO THE TUMOR
CC NECROSIS FACTOR RECEPTOR 2 (TNFR2) (BY SIMILARITY).
CC -1- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL).
CC -1- SIMILARITY: BELONGS TO THE IAP FAMILY.
CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
CC -1- SIMILARITY: CONTAINS 1 CARD DOMAIN.
CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
CC -----
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CC -----
CC EMBL: U88908; AAC53531.1; -.
CC MGD: MGI:1197007; Birc2.
CC InterPro: IPR0013370; BIR.
CC InterPro: IPR0013315; CARD.
CC InterPro: IPR001841; Znf_Ring.
CC Pfam: PF00653; BIR_1.
CC Pfam: PF00613; CARD_1.
CC Pfam: PF00697; ZF-CRMC4_1.
CC SMART: SM00238; BIR_3.
CC SMART: SM00114; CARD_1.
CC SMART: SM00184; RING_1.
CC PROSITE: PS01282; BIR_REPEAT_1; 3.
CC PROSITE: PS50143; BIR_REPEAT_2; 3.
CC PROSITE: PS50209; CARD_1.

```

KW Apoptosis: zinc-finger; Repeat.
 FT REPEAT 27 94 BIR 1.
 FT REPEAT 167 233 BIR 2.
 FT REPEAT 253 320 BIR 3.
 FT DOMAIN 444 512 CARD.
 FT ZN_FING 553 587 RING-TYPE.
 SO SEQUENCE 600 AA: 67198 MW: AD7F73E6849317D1 CRC64:

Query Match 90.8%; Score 268; DB 1; Length 600;
 Best Local Similarity 89.4%; Pred. No. 9, 2e-26;
 Matches 42; Conservative 3; Mismatches 2; Indels 0; Gaps 0;

QY 2 EQLASAGFYVGRNDYKFCDCDGLRCWESGDDPWVERAKMPFCE 48
 DB 272 QELASAGFYTGSHSDYKFCDCDGLRCWESGDDPWVERAKMPFCE 318

RESULT 7
 ID IAP3_NPVOP STANDARD: PRT: 268 AA.
 AC P41437;
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 20-AUG-2001 (Rel. 40, Last annotation update)
 DE APOPTOSIS INHIBITOR 3 (IAP-3).
 GN IAP3 OR IAP.
 OS Orygia pseudotsugata multicapsid polyhedrosis virus (OpNPV).
 OC Viruses; dsDNA viruses, no RNA stage; Baculoviridae;
 OC Nucleopolydnavirus.
 OX NCBI_Taxid=164623;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=94187094; PubMed=8139034;
 RA Birbaud M.J., Clem R.J., Miller L.K.;
 RT "An apoptosis-inhibiting gene from a nuclear polyhedrosis virus
 RT encoding a polypeptide with Cys/His sequence motifs.";
 RL J. Virol. 68:2521-2528(1994).
 RN [2]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=92721300; PubMed=9126251;
 RA Ahrens C.H., Russell R.R., Funk C.J., Evans J., Harwood S.,
 RA Kohmann G.F.;
 RT "The sequence of the Orygia pseudotsugata multicapsid nuclear
 RT polyhedrosis virus genome.";
 RL Virology 229:381-399(1997).
 CC -1- FUNCTION: ACTS BY BLOCKING CELLULAR APOPTOSIS RATHER THAN BY
 CC PREVENTING VIRAL STIMULATION OF APOPTOSIS.
 CC -1- SIMILARITY: CONTAINS 2 BIR REPEATS.
 CC -1- SIMILARITY: CONTAINS 1 RING-TYPE ZINC FINGER.
 CC -----
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 CC -----
 CC EMBL: L22564; AAB02610.1;
 DR EMBL: U75930; AAC59034.1;
 DR InterPro: IPR001370; BIR.
 DR InterPro: IPR001841; znf_fing.
 DR Pfam: PF00653; BIR.2.
 DR Pfam: PF00097; zf-C3HC4.1.
 DR SMART: SM00238; BIR.2.
 DR SMART: SM00184; RING.1.
 DR PROSITE: PS01287; BIR_REPEAT_1; 2.
 DR PROSITE: PS0143; BIR_REPEAT_2; 2.
 KW Apoptosis; zinc-finger; Repeat;
 FT REPEAT 16 94 BIR 1.
 FT REPEAT 111 178 BIR 2.
 FT ZN_FING 221 253 RING-TYPE.

SO SEQUENCE 268 AA: 30076 MW: DE89175FDE85A708 CRC64:

Query Match 67.1%; Score 198; DB 1; Length 268;
 Best Local Similarity 60.4%; Pred. No. 1, 9e-17;
 Matches 29; Conservative 8; Mismatches 11; Indels 0; Gaps 0;

QY 1 PEOLASAGFYVGRNDYKFCDCDGLRCWESGDDPWVERAKMPFCE 48
 DB 129 PEELASAGFYTGCGDKTRCFCDCDGLRCWESGDDPWVERAKMPFCE 176

RESULT 8
 ID BIRF_MOUSE STANDARD: PRT: 1403 AA.
 AC Q30186; P91704; 009122; 009121;
 DT 20-AUG-2001 (Rel. 40, Created)
 DT 20-AUG-2001 (Rel. 40, Last sequence update)
 DT 20-AUG-2001 (Rel. 40, Last annotation update)
 DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN IF (NEURONAL APOPTOSIS
 DE INHIBITORY PROTEIN 6).
 GN BIRC1P OR NAIP6 OR NAIP-RS4.
 GN Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 OX NCBI_Taxid=10090;
 RN [1]
 RP SEQUENCE FROM N.A.
 RX MEDLINE=20414747; PubMed=10958627;
 RA Estrizzi M.G., Hadinoto V., Growney J.D., Miller W., Dietrich W.F.;
 RT "Genomic sequence analysis of the mouse Naip gene array.";
 RL Genome Res. 10:1095-1102(2000).
 RN [2]
 RP SEQUENCE OF 82-168 FROM N.A.
 RC STRAIN=129/SV;
 RX MEDLINE=97131520; PubMed=8975718;
 RA Schart J.M., Damron D., Frisella A., Bruno S., Beggs A.H.,
 RA Kunkel L.W., Dietrich W.F.;
 RT "The mouse region syntenic for human spinal muscular atrophy lies
 RT within the 1q11 critical interval and contains multiple copies of Naip
 RT exon 5.";
 RL Genomics 38:405-417(1996).
 CC -1- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
 CC SIGNALS.
 CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.
 CC -----
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 CC -----
 CC EMBL: AF242431; AAF82751.1;
 DR EMBL: U65327; AAC52875.1;
 DR MGI: MGI:1598222; Birc1f.
 DR InterPro: IPR001370; BIR.
 DR Pfam: PF00653; BIR.3.
 DR SMART: SM00238; BIR.3.
 DR PROSITE: PS01282; BIR_REPEAT_1; 2.
 DR PROSITE: PS0143; BIR_REPEAT_2; 3.
 KW Apoptosis; Repeat; Multigene family.
 FT REPEAT 60 127 BIR 1.
 FT REPEAT 159 227 BIR 2.
 FT REPEAT 278 345 BIR 3.
 SO SEQUENCE 1403 AA: 159823 MW: 9D4912503358C4E9 CRC64:

Query Match 63.4%; Score 187; DB 1; Length 1403;
 Best Local Similarity 60.4%; Pred. No. 2e-15;
 Matches 29; Conservative 6; Mismatches 13; Indels 0; Gaps 0;

OY 1 PEOASAGFYVGRNDYKFCGCCDGLRCWESGDDPWVHAKWPFRC 48
 178 PRVLSAGFYVGRNDYKFCGCCDGLRCWESGDDPWVHAKWPFRC 225

RESULT 9

BIRG_MOUSE STANDARD: PRT: 1402 AA.

AC 09JIB3: 20-AUG-2001 (Rel. 40, Created)
 DT 20-AUG-2001 (Rel. 40, Last sequence update)
 DT 20-AUG-2001 (Rel. 40, Last annotation update)
 DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1G (NEURONAL APOPTOSIS
 INHIBITOR PROTEIN 7).
 GN BIRG1G OR NAIP7.
 OS Mus musculus (mouse).
 OC Eukaryota; Metazoa; Chordata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Mus.
 OX NCBI_TaxID-10090;
 RN 11

RP MEDLINE-20414747; PubMed-10958627;
 RA Endrizzi M.G., Hadinoto V., Growney J.D., Miller W., Dietrich W.F.;
 RT "Genomic sequence analysis of the mouse Naip gene array."
 RL Genome Res. 10:1095-1102(2000).

CC -1- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
 SIGNALS.

CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.

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DR EMBL: AF242433; AAF8749.1;
 DR MOP: MG11688256; BIRG19.
 DR InterPro: IPR001370; BIR.
 DR Pfam: PF00653; BIR: 3.
 DR SMART: SM00238; BIR: 3.
 DR PROSITE: PS01282; BIR_REPEAT_1; 2.
 DR PROSITE: PS0143; BIR_REPEAT_2; 3.
 DR Apoptosis; Repeat; Multigene family.
 FT REPEAT 60 127 BIR 1.
 FT REPEAT 159 227 BIR 2.
 FT REPEAT 278 345 BIR 3.
 SO SEQUENCE 1402 AA; 159662 MW; CIDFFBA359893BOD CRC64;

Query Match 63.1%; Score 186; DB 1; Length 1403;

Best Local Similarity 60.4%; Pred. No. 2, 6e-15;

Matches 29; Conservative 6; Mismatches 13; Indels 0; Gaps 0;

OY 1 PEOASAGFYVGRNDYKFCGCCDGLRCWESGDDPWVHAKWPFRC 48
 178 PRVLSAGFYVGRNDYKFCGCCDGLRCWESGDDPWVHAKWPFRC 225

RESULT 10

BIRA_MOUSE STANDARD: PRT: 1403 AA.

AC 09QMK5: 09R017; 09JIB5:
 DT 20-AUG-2001 (Rel. 40, Created)
 DT 20-AUG-2001 (Rel. 40, Last sequence update)
 DT 20-AUG-2001 (Rel. 40, Last annotation update)
 DE BACULOVIRAL IAP REPEAT-CONTAINING PROTEIN 1A (NEURONAL APOPTOSIS
 INHIBITOR PROTEIN 1).
 GN BIRG1A OR NAIP1 OR NAIP.
 OS Mus musculus (mouse).
 OC Eukaryota; Metazoa; Chordata; Cranata; Vertebrata; Euteleostomi;
 OC Mammalia; Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.

OX NCBI_TaxID-10090;

RP SEQUENCE FROM N.A.
 RA Yaraoglou Z., Korneluk R.G., Mackenzie A.F.;
 RT "Cloning and characterization of the multiple copies of the murine
 homologue of NAIP (neuronal apoptosis inhibitory protein).";
 RL Submitted (JUN-1997) to the EMBL/GenBank/DBJ databases.

RP MEDLINE-9941676; PubMed-10501978;
 RA Huang S., Schatt J.W., Growney J.D., Endrizzi M.G., Dietrich W.F.;
 RT "The mouse Naip gene cluster on Chromosome 13 encodes several distinct
 functional transcripts."
 RL Mamm. Genome 10:1032-1035(1999).

RP SEQUENCE FROM N.A.
 RA MEDLINE-20414747; PubMed-10958627;
 RA Endrizzi M.G., Hadinoto V., Growney J.D., Miller W., Dietrich W.F.;
 RT "Genomic sequence analysis of the mouse Naip gene array."
 RL Genome Res. 10:1095-1102(2000).

CC -1- FUNCTION: PREVENTS MOTOR-NEURON APOPTOSIS INDUCED BY A VARIETY OF
 SIGNALS.

CC -1- SIMILARITY: CONTAINS 3 BIR REPEATS.

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DR EMBL: AP007769; AAB69223.1;
 DR EMBL: AP35491; AAD56763.1;
 DR EMBL: AF242432; AAF8752.1;
 DR MOP: MG11298223; BIRG18.
 DR InterPro: IPR001370; BIR.
 DR Pfam: PF00653; BIR: 3.
 DR SMART: SM00238; BIR: 3.
 DR PROSITE: PS01282; BIR_REPEAT_1; 1.
 DR PROSITE: PS0143; BIR_REPEAT_2; 3.
 DR Apoptosis; Repeat; Multigene family.
 FT REPEAT 60 127 BIR 1.
 FT REPEAT 159 227 BIR 2.
 FT REPEAT 278 345 BIR 3.
 FT CONFLICT 343 343 I -> V (IN REF. 2).
 FT CONFLICT 359 359 L -> Q (IN REF. 2).
 FT CONFLICT 624 624 E -> K (IN REF. 2).
 FT CONFLICT 1092 1092 D -> E (IN REF. 3).
 FT CONFLICT 1116 1116 D -> N (IN REF. 3).
 FT CONFLICT 1123 1123 G -> R (IN REF. 3).
 FT CONFLICT 1129 1129 L -> H (IN REF. 1).
 FT CONFLICT 1140 1140 T -> M (IN REF. 2).
 FT CONFLICT 1269 1269 A -> V (IN REF. 3).
 SO SEQUENCE 1403 AA; 158692 MW; B3163025955EE67 CRC64;

Query Match 63.1%; Score 186; DB 1; Length 1403;

Best Local Similarity 60.4%; Pred. No. 2, 6e-15;

Matches 29; Conservative 6; Mismatches 13; Indels 0; Gaps 0;

OY 1 PEOASAGFYVGRNDYKFCGCCDGLRCWESGDDPWVHAKWPFRC 48
 178 PRVLSAGFYVGRNDYKFCGCCDGLRCWESGDDPWVHAKWPFRC 225

RESULT 11

BIRE_MOUSE STANDARD: PRT: 1403 AA.

AC 09R016: 09R029; P81703; 009122; 009121;
 DT 20-AUG-2001 (Rel. 40, Created)
 DT 20-AUG-2001 (Rel. 40, Last sequence update)
 DT 20-AUG-2001 (Rel. 40, Last annotation update)

[illegible]

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